

# Ecology Vocabulary Task

## Student directions

### Ecology Vocabulary Task

Command terms are words used in questions to help you know how detailed an answer to provide. It is important to know the command terms used in your tests and assignments to enable you to fully and correctly answer the questions you are asked.

Work in partners for this assignment. This exercise is a think-pair-share. That means that first you will try on your own, then you will work with your partner, then you will be asked to share one of your answers with the class.

**Define** is a command term that means to give a precise meaning of a word, phrase or physical quantity. It is sometimes helpful with a definition to provide an example whenever possible.

**Define** the following terms:

- i) Carbon emissions
- ii) Carbon cycle
- iii) Ecosystem

**Compare** is a command term that asks you to give an account of similarities and differences between two (or more items), referring to both (all) of them throughout. It is helpful to make a chart (table) to set up your comparisons as it helps you organize your answer.

**Exemplar:** Compare the terms Abiotic and biotic factors

	Abiotic Factors	Biotic Factors
Similarity	Part of an ecosystem	Part of an ecosystem
Similarity	Influence vegetation and community structure	Influence vegetation and community structure
Difference	Physical (non-living) parameters	Living parameters

**Compare** the following terms:

- i) Food chain and food web.
- ii) Herbivore and carnivore

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iii) Decomposers and consumers

**Distinguish** is a command term that requires you to give the differences between two or more different terms. A chart (table) also helps when organizing these answers.

**Exemplar.** Distinguish between Pyramid of Energy and pyramid of numbers

Pyramid of Energy	Pyramid of Numbers
Represents the amount of energy contained in each of the trophic levels	Represents the number of organisms in each of the trophic levels

**Distinguish** between the following terms:

- i) Population and community
- ii) Food web and energy pyramid
- iii) Producer and consumer

## Support material

### Markschemes/marketing notes:

Define the following terms:

i) Carbon emissions

- Carbon released into the atmosphere as a result of energy use and life processes. These emissions can be classified in two ways: indirect, those associated with food production, clothing and other products whose energy and material costs are hidden and direct, the CO<sub>2</sub> emitted by our use of electricity, gas, fuel etc.

ii) Carbon cycle

- The carbon cycle is the biogeochemical cycle by which carbon is moved through the atmosphere, hydrosphere, lithosphere, and biosphere. It describes the processes by which carbon is bound into organic compounds and then released from organic compounds.

iii) Ecosystem

- An ecosystem is comprised of all the living and non-living components of a particular region. Ecosystems are defined by both their communities (living components), physical factors, and chemical factors as well as their interactions with each other through the cycles of matter and the exchange of energy.

**Compare** is a command term that asks you to give an account of similarities and differences between two (or more items), referring to both (all) of them throughout. It is helpful to make a chart (table) to set up your comparisons as it helps you organize your answer.

e.g Compare the terms Abiotic and biotic factors

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(See table in student directions)

Compare the following terms:

i) Food chain and food web.(2 marks)

	Food chain	Food web
Similarity	Describes trophic relationships	Describes trophic relationships
Difference	Linear with no interactions	Multi-layered interactions

ii) Herbivore and carnivore (2 marks)

	Herbivore	Carnivore
Similarity	Consumer	Consumer
Difference	Consumes producers	Consumes other consumers
Difference	Lowest level of consumer	Higher level consumer food is less energy efficient from sun

iii) Decomposers and consumers (2 marks)

	Decomposers	Consumers
Similarity	Consume organic matter derived from producers	Consume organic matter derived from producers
Differences	Matter is from waste/dead matter from other consumers	Matter is living organisms

Distinguish between the following terms:

i) Population and community (1 mark)

Population	Community
Organisms of same species in same	Members of all the populations

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geographic area at same time	(species) living in the same geographic area at the same time
Population is a subset of a community	Community contains all the populations (more inclusive term)

### ii) Food web and energy pyramid (1 mark)

Food Web	Energy Pyramid
Describes the members of the populations and their trophic relationships in an ecosystem	Compares the relative amounts of energy available in the biomass of the different trophic level in an ecosystem

### iii) Producer and consumer

Producer	Consumer
First organisms in a food chain, food web or making up the bottom layer of an energy pyramid	Organisms in a food chain, food web or energy pyramids that make up the secondary and tertiary levels
Derive their energy directly from the sunlight	Derive their energy from eating other living organisms

This task is designed to help students practice their ability to address the requirements of the command terms (directing words) in a question. It also provides an opportunity to increase their understanding of vocabulary terms by determining both what the term/process/quantity is and what it is not. This is an adaptation of the Frayer model of graphic organizer. It is suitable for an individual task, group activity or class activity.

Subject:  
Biology

DP Component & Criteria:  
Short-answer Questions/Paper 2 and 3

Component type:  
Internal

MYP Criteria:  
Group 4 / Sciences